Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An exhaust sensor control system for an exhaust sensor mounted in an exhaust path of an internal combustion engine, wherein said exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element, the exhaust sensor control system comprising:

heater control means for continuing power supply control over said heater until the exhaust gas temperature at the exhaust sensor drops below 80°C after the internal combustion engine is stopped.

2. (Previously Presented) The exhaust sensor control system according to claim 1, further comprising element temperature acquisition means for acquiring the temperature of said sensor element, wherein said heater control means includes after-stop power supply control means for controlling said heater with a predetermined temperature between 300°C and 500°C set as a target temperature for said sensor element after the internal combustion engine is stopped.

3. (Currently Amended) The exhaust sensor control system according to claim 1 ~~or 2~~, wherein said heater control means comprises

stop moment exhaust temperature estimation means, which estimates the exhaust path temperature at a stop moment of the internal combustion engine, and

temperature condition determination means, which determines whether the exhaust path temperature is below 80°C based on the exhaust path temperature at said stop moment and the elapsed time after said internal combustion engine is stopped.

4. (Previously Presented) An exhaust sensor control system for an exhaust sensor mounted in an exhaust path of an internal combustion engine, wherein said exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element, the exhaust sensor control system comprising:

recovery value counting means for counting the elapsed time or the cumulative intake air amount after internal combustion engine startup as a characteristics recovery value;

heater control means for controlling said heater with a recovery target temperature, which is higher than a normal target temperature, set as a target temperature for said sensor element until said characteristics recovery value reaches a recovery determination value;

cumulative lean time counting means for counting, after internal combustion engine startup, the cumulative length of time during which the air-fuel ratio is lean; and

determination value correction means for increasing said characteristics recovery value or decreasing said recovery determination value with an increase in said cumulative length of time.

5. (Previously Presented) An exhaust sensor control system for an exhaust sensor mounted in an exhaust path of an internal combustion engine, wherein said exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element, the exhaust sensor control system comprising:

recovery value counting means for counting the elapsed time or the cumulative intake air amount after internal combustion engine startup as a characteristics recovery value;

heater control means for controlling said heater with a recovery target temperature, which is higher than a normal target temperature, set as a target temperature for said sensor element until said characteristics recovery value reaches a recovery determination value;

stop period counting means for counting stop period during which the internal combustion engine is stopped; and

determination value correction means for decreasing said characteristics recovery value or increasing said recovery determination value with an increase in the stop period during which the internal combustion engine is stopped.

6. (Previously Presented) An exhaust sensor control system for an exhaust sensor mounted in an exhaust path of an internal combustion engine, wherein said exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element, the exhaust sensor control system comprising:

cumulative lean time counting means for counting, after internal combustion engine startup, the cumulative length of time during which the air-fuel ratio is lean; and

heater control means for controlling said heater with a recovery target temperature, which is higher than a normal target temperature, set as a target temperature for said sensor element until said cumulative length of time reaches a recovery determination value.

7. (Previously Presented) The exhaust sensor control system according to claim 6, further comprising:

recovery value counting means for counting the elapsed time or the cumulative intake air amount after internal combustion engine startup as a characteristics recovery value; and

determination value correction means for increasing said cumulative length of time or decreasing said recovery determination value with an increase in said characteristics recovery value.

8. (Currently Amended) The exhaust sensor control system according to claim 6 ~~or 7~~, further comprising:

stop period counting means for counting stop period during which the internal combustion engine is stopped; and

determination value correction means for decreasing said cumulative length of time or increasing said recovery determination value with an increase in the stop period during which the internal combustion engine is stopped.

9. (Previously Presented) An exhaust sensor control system for an exhaust sensor mounted in an exhaust path of an internal combustion engine, wherein said exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element, the exhaust sensor control system comprising:

element temperature acquisition means for acquiring the temperature of said sensor element;

desorption progress value counting means for counting the elapsed time or the cumulative intake air amount after the temperature of said sensor element reaches the desorption temperature of an adsorbable species adsorbed by the sensor element as a desorption progress value;

output correction means for correcting the output of said exhaust sensor in accordance with a sensor output correction value; and

correction value calculation means for decreasing said sensor output correction value with an increase in said desorption progress value.

10. (Previously Presented) The exhaust sensor control system according to claim 9, further comprising stop period counting means for counting the stop period during which the internal combustion engine is stopped, wherein said correction value calculation means includes initial value setup means, which increases the initial value for said sensor output correction value with an increase in said stop period.